

SECTION 411 COLD MILLING

411.01 DESCRIPTION. This work is the removal of existing bituminous pavement at the locations specified in the Contract or designated by the Engineer.

411.02 VACANT.

411.03 CONSTRUCTION REQUIREMENTS.

411.03.1 Equipment. Use a power-operated cold milling machine equipped to control cross slope and to establish profile grade from the existing pavement or an external reference.

Use cold milling machines having a minimum single pass cutting width of 12 feet (3.7 m) where one or more full lanes are designated for removal except for the following conditions:

1. Cattle Guards and bridge ends;
2. Two-Lane Two-Way roads 40 feet (12.2 m) in width or less where the total removal is less than 25,000 square yards (20,900 m²).

Equip the milling machine to capture milling related dust.

411.03.2 General. Do not start cold milling until the plant mix material is available. Remove all thin delaminated or loose layers of existing pavement left after cold milling.

Replace the milled pavement at bridge ends and cattle guards with new bituminous surfacing the same day leaving no transverse joints in the milled areas.

If new surfacing cannot be place on the milled area the same day of the milling, taper the edges at structures and cattle guards at 50:1 with hot mix. Remove and dispose of the tapers immediately before placing the planned overlay on the milled area.

Replace all other areas designated for milling with new bituminous surfacing the same day that the milling is performed.

Replacing existing pavement is a separate operation from any succeeding overlay or lift.

411.03.3 Milling.

A. Bridge and Cattle Guard Approaches and Bridge Decks. Mill the existing bituminous surfacing from bridge decks, bridge approaches, and cattle guards at the locations specified in the Contract.

Mill to the plan depth from the bridge ends out to a maximum 50 feet (15.3 m) from the bridge end. Taper the mill depth from that point to the level of the existing pavement surface from a minimum 10 feet (3 m) to a maximum 150 feet (45.8 m), as directed.

At cattle guards, the full depth milling distance will vary from 0 to 40 feet (12.2 m), and the taper milling distance will vary from 10 to 80 feet (3 to 24.4 m), as directed.

Bridge deck mill depth is shown in the Contract.

- B. Milling at Other Designated Areas.** Mill the existing pavement at the locations, widths and depths specified. Depths specified are minimums. The depth is measured below the existing pavement plane projected from points on un-distorted pavement near the centerline and the edge of the driving lane.

411.03.4 Salvage of Pavement Millings. Salvage, haul, and stockpile the milled pavement to the specified site.

Milled pavement is the Contractor's property when specified and must be removed from the project.

411.03.5 Replacing Removed Pavement. Pave all milled areas in the Contract with the specified bituminous mixture, placed to the specified depth.

Grades will be provided at 50 foot (15.3 m) intervals for placing the new pavement for 250 feet (76.3 m) from each bridge end and 100 feet (30.5 m) from cattle guards. Set a wire line for grade control with intermediate supports to prevent wire deflection exceeding 0.015 feet (5 mm). Stop paving if the deflection exceeds 0.015 feet (5 mm) and make appropriate corrections.

Apply a tack coat on all milled areas before paving.

411.03.6 Traffic Control. Furnish traffic control under Section 618.

411.04 METHOD OF MEASUREMENT. Cold milling is measured by the square yard (square meter) of pavement removed to the specified depth. If directed in writing to mill to a depth 20% or greater than specified, the measured area is increased by the ratio of the ordered depth to the specified minimum depth. No adjustment in measurement is made for increases in mill depth up to 120% of the specified depth.

411.05 BASIS OF PAYMENT. Payment for the completed and accepted quantities is made under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Cold Milling	Square Yard (square meter)

Payment at the contract unit price is full compensation for all necessary resources to complete the item of work under the Contract.